

CLAIMS

1. A method for generating acknowledgement messages in a data transmission system having a receiver for receiving datagrams and being capable of determining which of a series of datagrams have been incorrectly received, the method comprising generating a plurality of a data units, each data unit comprising:

a status bit indicative of the status of the data unit; and

a plurality of spacing bits together forming a binary representation of a number at least partially indicative of the spacing between one incorrectly received datagram and a succeeding incorrectly received datagram.

2. A method as claimed in claim 1, wherein an acknowledgement message comprises a plurality of the said data units.

3. A method as claimed in claim 1 or 2, wherein one value of a status bit is indicative of its corresponding data unit not being the last data unit of a set of consecutive data units whose spacing bits together represent a number indicative of a spacing between one incorrectly received datagram and a succeeding incorrectly received datagram.

4. A method as claimed in any preceding claim, wherein the other value of a status bit in a datagram whose spacing bits represent a predetermined number is indicative of adjacent data units representing a number indicative of a number of consecutive incorrectly received datagrams.

5. A method as claimed in claim 4, wherein the said predetermined number is zero.

6. A method as claimed in any preceding claim, wherein an acknowledgement message includes data identifying the set of datagrams whose reception is described by the message.

7. A method as claimed in any preceding claim, wherein each data unit consists of four or more bits.
8. A method as claimed in claim 7, wherein each datagram consists of four bits.
9. A method as claimed in any preceding claim, comprising the step of generating an acknowledgement message comprising the plurality of data units and transmitting that message to a transmitter of the datagrams.
10. A method as claimed in any preceding claim, wherein the communication link from the transmitter to the receiver comprises a radio link.
11. A method as claimed in claim 10, wherein the radio link is a cellular telephone radio link.
12. A method as claimed in claim 10 or 11, wherein the radio link is a wideband code division multiple access link.
13. A receiver for receiving a series of datagrams from a transmitter, comprising:
 - a datagram checking unit for determining which of the datagrams have been incorrectly received; and
 - an acknowledgement message generator for generating acknowledgement messages, each acknowledgement message comprising a plurality of a data units, each data unit comprising:
 - a status bit indicative of the status of the data unit; and
 - a plurality of spacing bits together forming a binary representation of a number at least partially indicative of the spacing between one incorrectly received datagram and a succeeding incorrectly received datagram.
14. A receiver as claimed in claim 13, comprising a transmitting unit for transmitting the acknowledgement messages to a transmitter.

15. A receiver as claimed in claim 13 or 14, comprising a memory connected to the datagram checking unit for storing information indicating which of the datagrams has been incorrectly received.
16. A receiver as claimed in any of claims 13 to 15, wherein each datagram comprises checksum information and the datagram checking unit is capable of calculating a checksum for a received datagram and comparing that checksum with the checksum information comprised in the datagram to determine whether the datagram is correctly received.
17. A receiver as claimed in any of claims 13 to 16, wherein each data unit consists of four bits.
18. A receiver as claimed in any of claims 13 to 17, wherein the acknowledgement generator is implemented in hardware.
19. A receiver as claimed in any of claims 13 to 18, wherein the receiver is a radio receiver.
20. A receiver as claimed in any of claims 13 to 19, wherein the receiver is a cellular radio terminal.
21. A method for generating acknowledgement messages substantially as herein described with reference to the accompanying drawing.
22. A receiver substantially as herein described with reference to the accompanying drawing.